

Appl. No. 10/566,536
Response dated October 19, 2007
Reply to Office Action of Apr. 19, 2007

IN THE CLAIMS:

Please amend the claims to read as follows:

Claim 1. (Currently amended) A self locking mechanism, composed of two aluminum profiles designed in such a way to self lock when Glass is placed on the female profile and the male profile is inserted and the mechanism further tightens grip on the glass edges when pushed in a grooved rubber; self-lock glazing system, composed of two aluminum profiles designed in such a way comprising: a male profile and a female profile to self-lock glass panels using rubber beading; said glazing system functions when a glass panel is placed on an upper leg of said female profile with a pair of spacers between a vertical tip of the said female profile and said glass panel, and next a horizontal leg of said male profile is inserted with a locking tip facing upward into a gap between lower and upper legs of the said female profile; the locking tips of both the male and female profiles are then engaged by tilting said male profile on a built-in fulcrum by pulling the vertical leg outward and introducing a pair of wedges into a space created between the said glass panel and the said vertical tip of the male profile to keep the locked tips engaged and said profiles are arrested; so that said glass panel is locked in said glazing system; and said glazing system further tightens its grip on edges of the locked glass panel when the spacers and wedges are replaced by rubber beadings of appropriate resilience which enables the said glass panel to remain in equilibrium throughout the life of the rubber beading.

Claim 2 (currently amended) A self locking glazing system comprising:

- ____ (a) a female profile, the female profile having an upper tip, a base, and a gap, the gap being located at the base, and the gap including upper and lower portions;
 - ____ (b) a male profile, the male profile having an upper tip, a leg, and a fulcrum;
 - ____ (c) the leg interlocking with the gap; and
 - ____ (d) the upper portion of the gap providing a support area for a glass which can be locked by the glazing system; and
 - ____ (e) wherein the opposite forces in opposite directions are placed on the respective tips of the male and female profiles.
- (a) a female profile; said female profile comprising a right angled profile with a

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horizontal base open at one end and a second end having a vertical upper leg with a horizontal tip on its top, and the upper leg extended from a lower half portion of the vertical leg having a plain surface on its top and a downwardly sloping protrusion bearing a female locking tip with a mating chamber facing down towards a gap between the upper and lower legs;

(b) a male profile; said male profile comprising an acute angled profile with a horizontal leg at a base, with a male locking tip facing upward at one end and a second end having a built-in fulcrum on which the vertical leg stands upward with a horizontal tip on the top;

(c) the locking tip of the horizontal leg of the said male profile interlocks with the female locking tip underneath the upper leg of said female profile, when the horizontal leg of the male profile is introduced through the gap between the upper leg and the lower leg of the female profile, and the vertical leg of the male profile is tilted outward about its built-in fulcrum;

(d) the upper leg of the said female profile comprising a flat surface on its top providing a support area for a glass panel which can be locked by the glazing system by the female locking tip beneath aid upper leg interlocks with the male locking tip when engaged by tilting the vertical leg of the male profile outward on its built in fulcrum and the vertical tips of both the male and female profiles lock the glass panel in position from both sides with the rubber beadings in between; and

(e) wherein the opposite forces in opposite directions are placed on the respective tips of the male and female profiles when spacers and wedges are replaced by grooved rubber beadings of appropriate resilience.

Claim 3: (currently amended) The self locking self-lock glazing system of claim 2, wherein the base of the said female profile has a centre, and the leg of the said male profile passes the centre when inserted into the gap and the locking tips are duly engaged.

Claim 4: (currently amended) The self locking self-lock glazing system of claim 2, wherein the upper portion leg of the gap said female profile - which is the horizontal cantilever extension from the lower half portion of the vertical leg with an upper flat surface - has a downwardly sloped portion which ends in a cavity, and protrusion with a female locking tip followed by a locking chamber which faces downward to the gap between the upper leg and lower leg; the

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locking tip on the horizontal leg of the male profile interlocks with the cavity female locking tip inside the said locking chamber, when the leg of the said male profile is introduced through the said gap and tilted the said male profile on its built in fulcrum.

Claim 5: (currently amended) The ~~self locking self-lock~~ glazing system of claim 4, wherein the horizontal leg of the said male profile has an enlarged a unique male locking tip formed by two upward sloping surfaces and a vertical dropping down mating face; which the said male locking tip interlocks with the cavity in the said locking chamber with a complementing locking tip of the said female profile.

Claim 6: (currently amended) The ~~self locking self-lock~~ glazing system of claim 2, wherein forces in opposite ~~direction~~ directions are exerted by the rubber beadings on the vertical tips of the said male and female profiles tend to cause cause an overturning moment due to the built in fulcrum in the said male profile to attempt to rotate in a and that direction remains opposite to that of the female profile.

Claim 7: (currently amended) The ~~self locking~~ self-lock glazing system of claim 6, wherein the said male profile attempts to rotate around the fulcrum; a back and forth micro movement resulting from the force exerted by the rubber beading and the corresponding reaction generated at the locking tips ensures that the glass panel is kept in equilibrium throughout the life of the rubber beadings.

Claim 8 : (currently amended) The ~~self locking self-lock~~ glazing system of claim 7, wherein the fulcrum rests on the base of the female profile.

Claim 9: (currently amended) The ~~self locking self-lock~~ glazing system of claim 2, wherein a vertical plane passing through the center of the said glass panel will intersect both the said male and female profiles, and also intersect the said gap of the said female profile and the horizontal leg of the said male profile.

Claim 10: (currently amended) The ~~self locking self-lock~~ glazing system of claim 9, wherein the vertical plane will intersect both the upper leg and lower portions leg of the said female profile.

Claim 11: (currently amended) The ~~self locking self-lock~~ glazing system of claim 2, wherein the upper portion of the said gap for is the upper leg (of the said female profile) which is

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supporting the said glass panel is flat.

Claim 12: (currently amended) The self locking self-lock glazing system of claim 2, wherein the lower portion of the base is the lower leg of the said female profile which is flat in general.

Claim 13: (currently amended) The self locking self-lock glazing system of claim 2, wherein the horizontal tip of the vertical leg of the said female portion profile and the horizontal tip of the vertical leg of the said male portion profile are located at the same height when the glass panel is positioned and the lock is connected engaged (by inserting the horizontal leg of the said male profile into the gap between the upper and lower legs of the said female profile and tilting the said male profile on its built-in fulcrum by pulling the vertical leg outward).

Claim 14: (New) The self-lock glazing system of claim 2, wherein the rubber beadings are introduced into the system; due to the built in fulcrum in the said male profile, the inherent resilience of rubber causes a mating action in the said locking chamber and the resulting equal and opposite reaction keep the glass panel in an equilibrium; this balancing act of forces remains in the locking system throughout the life of the rubber beading as a dynamic phenomenon.

Claim 15: (New) The self-lock glazing system of claim 1, which can be utilised for theft-proof glazing by modifying the rubber beading used on the side of the said female profile to a broader one with an extended tip and thus filling up the whole space including the groove inside of the vertical leg of the said female profile and the said glass panel; thus removing the said beading from the female profile side becomes difficult and glazing to be undertaken to make this female side the outer.

Claim 16: (New) The self-lock glazing system of claim 15, which can be used as a safety glazing in situations such as high rise buildings where external access is difficult, by making the said female profile side as outer and performing the glazing work from inside by hooking the modified beading into the groove mentioned in claim 15 on the said female profile before placing the glass panel.

Claim 17: (New) The self-lock glazing system of in claim 1, which can be utilised for thermal insulated glazing by extruding the said male and female profiles from plastic or other materials having thermal insulation properties.

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Claim 18: (New) The self-lock glazing system of claim 2 is **adaptable for** various panels such as glass, plywood, gypsum board etc. of various thickness by adjusting the thickness of the beading or wedges; and this feature enables temporary closing of broken windows using any available panels even by unskilled people.